

CLAIMS

1. A method of binder extraction and sintering of a green body in a state of weightlessness, comprising:
 - a. providing a green body composed of at least one sinterable particulate material and an organic binder soluble in supercritical fluids
 - b. placing said green body on a weighing device capable of operating in the environment of a hot isostatic press system and displaying the weight of said green body externally to said hot isostatic press system
 - c. loading said weighing device and said green body into the chamber of said hot isostatic press and filling said chamber with a fluid medium which, above its critical point, is a solvent for the organic binder of said green body
 - d. pressurizing said fluid medium until said external green body weight indication is substantially nil
 - e. raising the temperature in the chamber of said hot isostatic press system until binder extraction and sintering of the green body are substantially

completed whilst maintaining said fluid medium at a pressure such that said green body weight indication remains substantially nil.

2. The method of claim 1 wherein said fluid medium is constituted by a plurality of supercritical fluids
3. The method of claim 1 wherein said fluid medium is carbon dioxide
4. The method of claim 1 wherein said fluid medium is xenon
5. The method of claim 1 wherein said fluid medium is constituted by a mixture of carbon dioxide and xenon
6. The method of claim 1 wherein the composition of said fluid medium is changed during binder removal and sintering of said green body
7. The method of claim 1 wherein said green body has a convoluted geometry
8. A method of binder extraction and sintering of a green body in a state of weightlessness, comprising:
 - a. providing a green body composed of at least one sinterable particulate material and an organic binder soluble in supercritical fluids

- b. loading said green body in the chamber of a hot isostatic press system and filling said chamber with a fluid medium which, above its critical point, is a solvent for the organic binder of said green body
 - c. raising the temperature in the chamber of said hot isostatic press system until binder extraction and sintering of the green body are substantially completed whilst maintaining said fluid medium at pressure such that its density is substantially equal to that of said green body being processed
- 9. The method of claim 8 wherein said fluid medium is constituted by a plurality of supercritical fluids
 - 10. The method of claim 8 wherein said fluid medium is carbon dioxide
 - 11. The method of claim 8 wherein said fluid medium is xenon
 - 12. The method of claim 8 wherein said fluid medium is constituted by a mixture of carbon dioxide and xenon
 - 13. The method of claim 8 wherein the composition of said fluid medium is changed during binder removal and sintering of said green body

14. The method of claim 8 wherein said green body has a convoluted geometry